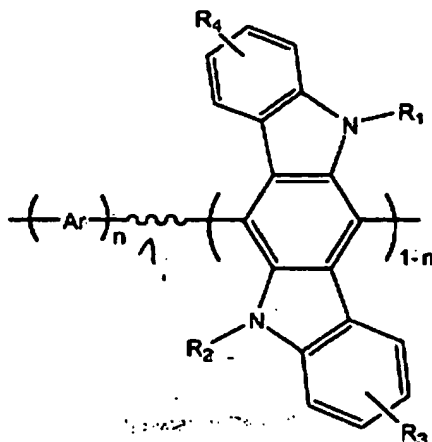


What is claimed is:

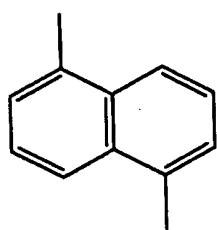
1. A polymer represented by formula 1:



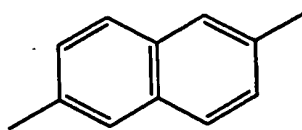
<Formula 1>,

wherein Ar is selected from the group consisting of a substituted or unsubstituted C<sub>6-30</sub> aryl group and a substituted or unsubstituted C<sub>2-30</sub> heteroaryl group; R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are independently a hydrogen atom, a substituted or unsubstituted C<sub>1-30</sub> alkyl group, a substituted or unsubstituted C<sub>1-30</sub> alkoxy group, a substituted or unsubstituted C<sub>6-30</sub> aryl group, a substituted or unsubstituted C<sub>6-30</sub> arylalkyl group, a substituted or unsubstituted C<sub>6-30</sub> aryloxy group, a substituted or unsubstituted C<sub>2-30</sub> heteroaryl group, a substituted or unsubstituted C<sub>2-30</sub> heteroarylalkyl group, a substituted or unsubstituted C<sub>2-30</sub> heteroaryloxy group, a substituted or unsubstituted C<sub>5-20</sub> cycloalkyl group, and a substituted or unsubstituted C<sub>5-30</sub> heterocycloalkyl group; and n is a real number between 0.01 and 0.99.

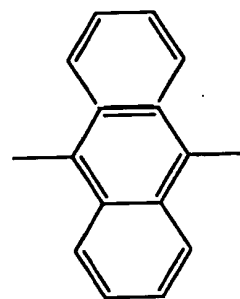
2. The polymer of claim 1, wherein in formula 1, the arylene (Ar) unit in the main chain of the polymer is a group represented by one or more formula selected from the group consisting of:



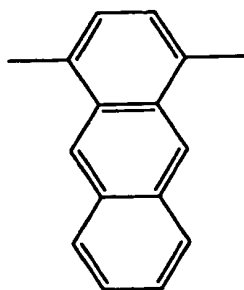
(1a)



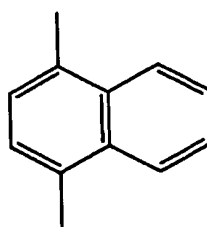
(1b)



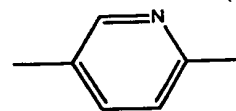
(1c)



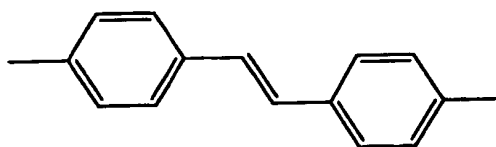
(1d)



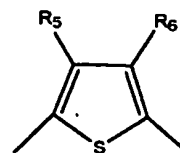
(1e)



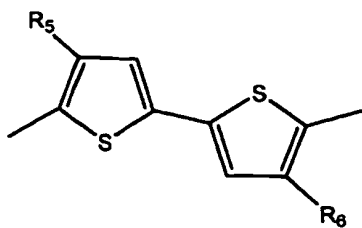
(1f)



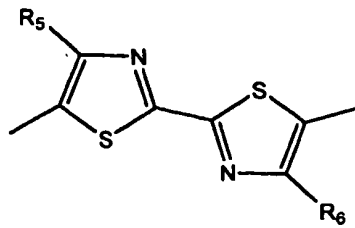
(1g)



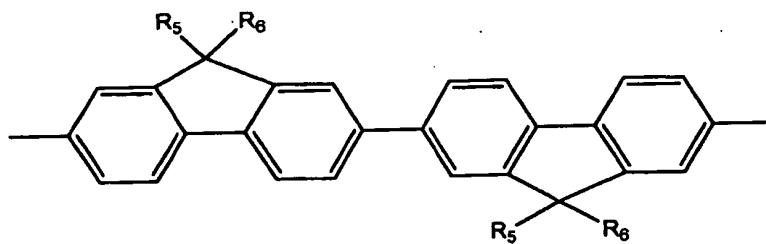
(1h)



(li)



(lj)



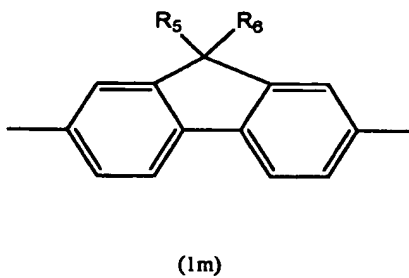
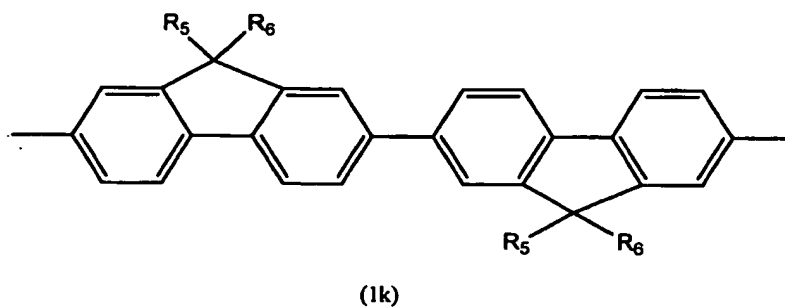
(lk)



(lm)

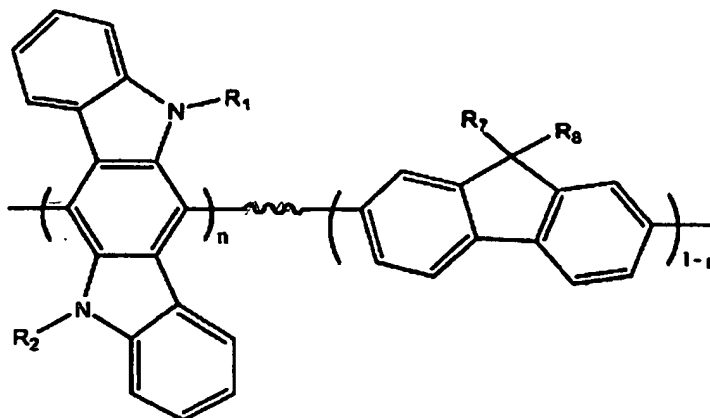
wherein  $R_5$  and  $R_6$  are independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted  $C_{1-12}$  alkyl group, a substituted or unsubstituted  $C_{1-12}$  alkoxy group and a substituted or unsubstituted amino group.

3. The polymer of claim 1, wherein the arylene (Ar) unit in the main chain of the polymer has an alkyl fluorene structure as represented by formula 1k or 1m,



4. The polymer of claim 1, wherein the polymer has a weight average molecular weight within the range of from about 10,000 to about 200,000 and a molecular weight distribution of 1.5 to 5.

5. The polymer of claim 1, wherein the polymer is a compound represented by formula 2:



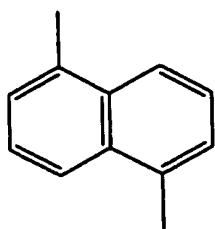
<Formula 2>

wherein  $R_1$ ,  $R_2$ ,  $R_7$  and  $R_8$  are independently a  $C_{1-12}$  alkyl group, and  $n$  is a real number between 0.01 and 0.99.

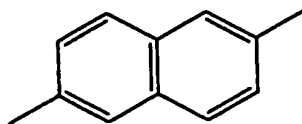
6. An organic EL device comprising an organic layer positioned between a pair of electrodes, the organic layer comprising the polymer of claim 1.

7. The organic EL device of claim 6, wherein the organic layer is an emissive layer or a hole transport layer.

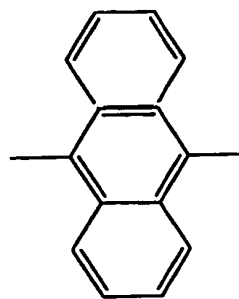
8. The organic EL device of claim 6, wherein in formula 1, the arylene (Ar) unit in the main chain of the polymer is a group represented by one or more formula selected from the group consisting of:



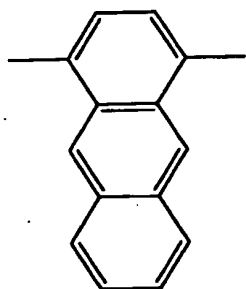
(1a)



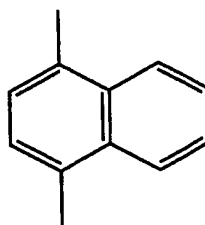
(1b)



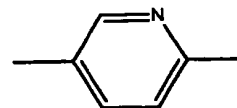
(1c)



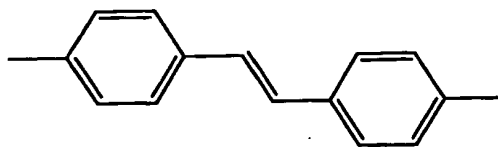
(1d)



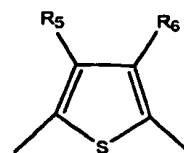
(1e)



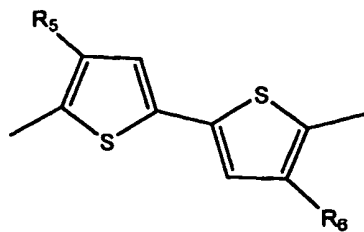
(1f)



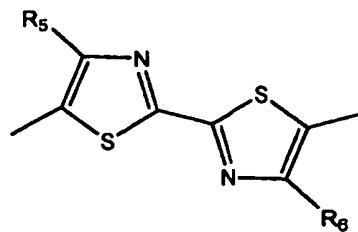
(1g)



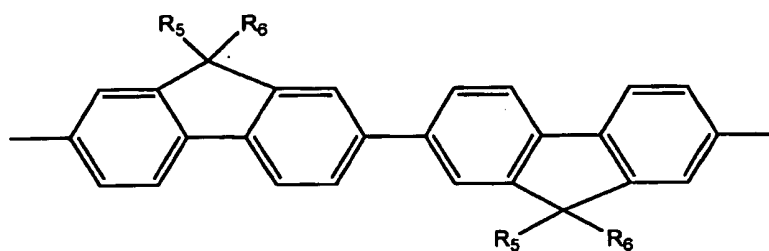
(1h)



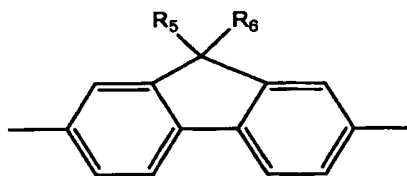
(li)



(lj)



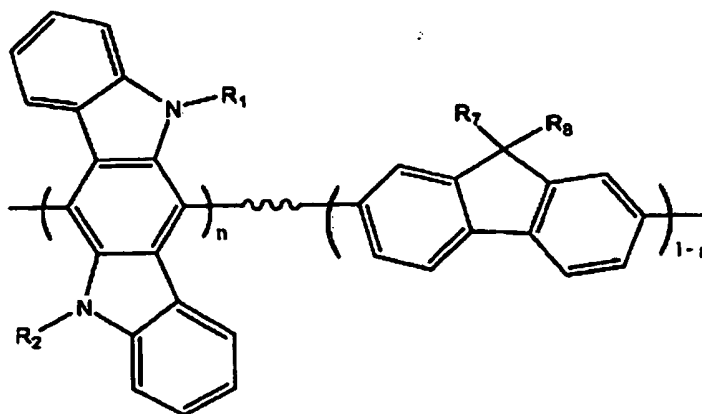
(lk)



(lm)

wherein  $R_5$  and  $R_6$  are independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted  $C_{1-12}$  alkyl group, a substituted or unsubstituted  $C_{1-12}$  alkoxy group and a substituted or unsubstituted amino group.

9. The organic EL device of claim 6, wherein the polymer is a compound represented by formula 2:



<Formula 2>,

wherein  $R_1$ ,  $R_2$ ,  $R_7$  and  $R_8$  are independently a  $C_{1-12}$  alkyl group, and  $n$  is a real number between 0.01 and 0.99.